

Amendments to the Claims:

This claim listing will replace all prior versions and listings of claims in the application:

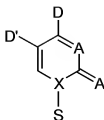
Claim Listing:

- 1-19. (Cancelled)
20. (Currently Amended) An immunostimulatory oligonucleotide compound, comprising:
an immunostimulatory dinucleotide of formula ~~CpG~~, C*pG, C*pG* or CpG*, wherein C
is a natural pyrimidine nucleoside, C* is a non-natural pyrimidine nucleoside, G is a
natural purine nucleoside and G* is a non-natural purine nucleoside, and wherein p is an
internucleotide linkage selected from the group consisting of phosphodiester,
phosphorothioate and phosphorodithioate;

a 3'-3' linkage; and

one or two accessible 5' ends

~~provided that when the immunostimulatory dinucleotide is CpG neither oligonucleotide
sequence on opposite sides of the linker is complementary to the gag or tat gene of HIV-~~
4.
21. (Original) The immunostimulatory oligonucleotide compound of claim 20, which
oligonucleotide comprises two accessible 5' ends.
- 22.-40. (Canceled)
41. (previously presented) The immunostimulatory oligonucleotide compound of claim 20,
wherein G* is 7-deazaguanosine.
42. (New) An immunostimulatory oligonucleotide compound, comprising:an
immunostimulatory dinucleotide of formula CpG or C*pG, wherein C is a natural
pyrimidine nucleoside, C* is a non-natural pyrimidine nucleoside having formula (I):



(I)

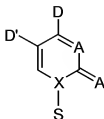
wherein D is a hydrogen bond donor, D' is selected from the group consisting of hydrogen, hydrogen bond donor, hydrophilic group, hydrophobic group and electron donating group, A is a hydrogen bond acceptor or a hydrophilic group, X is carbon or nitrogen, and S is a pentose or hexose sugar ring, provided that the pyrimidine nucleoside of formula (I) is not cytidine or deoxycytidine, and G is a natural purine nucleoside, and wherein p is an internucleotide linkage selected from the group consisting of phosphodiester, phosphorothioate and phosphorodithioate;

a 3'-3' linkage; and

one or two accessible 5' ends;

~~provided that when the immunostimulatory dinucleotide is CpG neither oligonucleotide sequence on opposite sides of the linker is complementary to the gag or tat gene of HIV-1.~~

43. (New) The immunostimulatory oligonucleotide compound of claim 20, wherein the non-natural pyrimidine nucleoside has the formula (I):



(I)

wherein D is a hydrogen bond donor, D' is selected from the group consisting of hydrogen, hydrogen bond donor, hydrogen bond acceptor, hydrophilic group, hydrophobic group, electron withdrawing group and electron donating group, A is a hydrogen bond acceptor or a hydrophilic group, X is carbon or nitrogen, and S is a pentose or hexose sugar ring, provided that the pyrimidine nucleoside of formula (I) is not cytidine or deoxycytidine

44. (New) The immunostimulatory oligonucleotide compound of claim 43, wherein the non-natural pyrimidine nucleoside includes a non-naturally occurring pyrimidine base.
45. (New) The immunostimulatory oligonucleotide compound of claim 04, wherein the non-naturally occurring pyrimidine base is selected from the group consisting of 5-hydroxycytosine, 5-hydroxymethylcytosine, N4-alkylcytosine, and 4-thiouracil.
46. (New) The immunostimulatory oligonucleotide compound of claim 43, wherein the non-natural pyrimidine nucleoside of formula (I) comprises a non-naturally occurring sugar moiety.
47. (New) The immunostimulatory oligonucleotide compound of claim 46, wherein the non-naturally occurring sugar moiety is arabinose.
48. (New) The immunostimulatory oligonucleotide compound of claim 42, wherein the non-natural pyrimidine nucleoside includes a non-naturally occurring pyrimidine base.
49. (New) The immunostimulatory oligonucleotide compound of claim 08, wherein the non-naturally occurring pyrimidine base is selected from the group consisting of 5-hydroxycytosine, 5-hydroxymethylcytosine, N4-alkylcytosine, and 4-thiouracil.
50. (New) The immunostimulatory oligonucleotide compound of claim 42, wherein the non-natural pyrimidine nucleoside of formula (I) comprises a non-naturally occurring sugar moiety.

51. (New) The immunostimulatory oligonucleotide compound of claim 50, wherein the non-naturally occurring sugar moiety is arabinose.